Variables Impacting Student Loan Knowledge

THESIS

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Abstract

Student loan debt has eclipsed auto and credit card debt; it is now the second largest category of household debt, only lagging behind mortgage debt. In August 2015, student loan debt in the U.S. ballooned to over $1.3 trillion. With default rates hovering around 14%, student loan debt has become a serious issue for many U.S. households. While a college degree remains valuable, tuition and fees continue to escalate. Many times, the decision to take on student debt is made by 18-year-old individuals, who might not fully comprehend the long-term ramifications of their decisions. The goal of this research is to determine whether any independent variables impact students' knowledge of their loan situation and if students view their loans as investments. Student loan knowledge was gauged by whether students could identify their interest rate, starting salary, and debt burden. The five independent variables being explored are current employment, debt dependency, enrollment in a high school or college financial course, and budgeting. Data was acquired through a survey of 441 Ohio State students. Multivariate regressions and two-proportion Z-tests were run to determine if the different independent variables contribute to greater student loan knowledge. The research concludes current employment has the greatest effect on whether students know their loan situation. This research provides insights into why some students are more knowledgeable about their student loans and opens the discussion about what can be done to educate the high school graduates making the student loan decision.

Acknowledgments

I want to thank everyone who has helped me along my academic journey, not only at Ohio State, but throughout my entire life.

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I. Introduction

Banks' ability within the financial system to loan money is fundamental to capitalistic economies around the world. Borrowing allows large corporations, small business, households, and individuals to pursue worthwhile investments, which are intended to generate returns greater than the associated costs. The debtor is required to pay back the original loan amount plus interest. The cost of borrowing the money is known as the interest rate. The ability for businesses/individuals to take on debt is crucial, since without that ability the entity would have to wait until it accumulated enough money independently to finance a purchase or investment. For example, it would not be practical if the only way for individuals to purchase a home was through an outright purchase. Normally, it takes individuals years of saving to put 20% down on the average American home; so requiring upfront payment would be devastating to the housing market. The same logic applies to businesses looking to start new capital projects. Forcing them to wait and save enough capital would be detrimental to the economy, company, and shareholders.

The reasoning above can easily be applied to the idea of student loans. Young men and women are looking to receive an education, which they are currently unable to afford. So, they take out a loan with the promise to repay this amount after graduation. (It should be noted some students attend college without the intention of increasing their value in the labor market. They might attend for the social aspects, travel opportunities, expanding general knowledge, etc.) The education these men and women receive is intended to increase their human capital making them more valued in the labor market. Consequently, by making the individuals more valued in the labor market, this should lead to higher salaries, thus giving individuals a higher probability they will pay off their original loan plus interest.

This may not be the perfect system, however, the process of individuals taking out a loan, receiving an education, and then paying that loan back has historically proven adequate to educate the American populous. However, recently there has been growing concern surrounding the student loan market. The most recent numbers show that as of January 2016, the total amount of student loan debt in the United States is over $1.3 trillion (College Access & Success). It has surpassed auto and credit card debt and now accounts for the second largest grouping of household debt, lagging only behind mortgage debt. The average debt levels for graduating seniors with student loans rose to $29,400 in 2012: a 25.37% increase from $23,450 in 2008 (College Access & Success). Moreover, default rates on these loans are around 14%, which are rates the nation has not seen in 25 years (Anderson).

People are starting to fear bubble-like conditions are present in the student loan marketplace, similar to those found in the housing market in 2008. This fear stems from the fact that student loans are easy to get (most types of federal loans cannot be denied based on credit or employment) and this easy money is flowing into colleges. Since it is extremely easy for prospective students to get student loans, universities can constantly raise tuition because they know their students will continue to get loans from the government. Similarly, in 2008 banks were loaning money with little restriction to people who could not afford the homes they were buying. These easily accessible loans increased demand driving up home prices. The rationale at the time was rising home prices would continue, so people could easily flip, sell, or refinance their homes at a profit in the future. However, when the "bubble burst" and home prices plummeted, homebuyers were insolvent and not able to flip or sell their homes for a profit anymore. A similar problem is starting to arise in the student loan marketplace. The problem is when students are not able to complete school or the degree they earn is not worth as much as

they had originally planned. In this case, college graduates are not able to "flip" their education into a job allowing them to payback their debt. It is getting more competitive to acquire a job that allows students to pay off their loans, shown by the increase in default rates, and more graduates than ever are being left with loans they are unable to afford.

Rather than stemming from an asymmetric information disadvantage, this research proposes the student loan problem concerning young individuals stems from ignorance instead. Ignorance can have a harsh connotation attached, thus it is important to point out that ignorance is simply defined as a "lack of knowledge or information."

Since most individuals taking out student loans lack valuable assets there is no collateral available to securitize the loan. The promise of repayment comes from future income. Therefore, current knowledge of future earnings potential is vital when taking out the original loan because an individual is essentially using their future income as collateral. In addition, knowledge of interest rate and total debt amount is fundamental when students are considering these loans. Therefore, if students are ignorant of these three critical figures they potentially could find themselves struggling to pay back their student loans.

To this point, one could questions why any young individual tasked with self-financing their way through college would choose to go at all. The answer has to do with the college premium.

The earnings potential relative to not going to college is called the college premium or college wage premium. Currently, the college premium is at historically high levels. In their paper, *"The Race Between Education and Technology: The Evolution of U.S. Educational Wage Differentials, 1890 to 2005"*, Goldin and Katz, conclude that, "strong secular growth in the relative demand for more educated workers combined with fluctuations in the growth of relative

skill supplies go far to explain the long-run evolution of U.S. educational wage differentials." Goldin and Katz also confirm what many people already believed, that the only thing more costly than going to college is not going at all. Thus, the decisions regarding student loans, choice of college, and major selection are important as ever for high school graduates.

So, are young men and women who are taking out student loans ignorant and not understanding of the decisions they are making? The factors critical to the decision to attend college or not was summed up well in Christopher Avery and Sarah Turner's "*Student Loans: Do College Students Borrow Too Much – Or Not Enough?*" In the paper they wrote, "The decision as to whether to invest in one's human capital in the form of education requires that an individual compare the present discounted value of benefits—among which are the gains in future earnings as a result of education—to the present discounted value of costs, including tuition, fees, and foregone wages." Asking teenagers to compare discounted benefits and costs is a demanding request especially when many are not even sure of their intended major or choice of college. Maybe individuals are not ignorant when it comes to taking on loans, rather are just not good at analyzing their own personal situation when considering their skills, abilities, possible career path, and likelihood of staying in school, which also makes it difficult to estimate the cost of college. Regardless, student loans should be viewed like all investments and this research aims to examine if students view loans in that light, as well as if students' knowledge of their loans is dependent upon certain variables.

II. Existing Literature

There is some existing research regarding student loans and similar topics that play a role in a student's decision to attend college. Literature in this domain is growing parallel to the growth of cumulative national student loan debt and as default rates on those loans continue to rise.

Previously mentioned was Christopher Avery and Sarah Turner's "*Student Loans: Do College Students Borrow Too Much – Or Not Enough?"* Avery and Turner explore college as an investment on an individual level, a change from most of the literature which discuss loans and borrowing using national averages. The authors point out that graduation rates, graduate programs, occupation/wages, and dispersion of wages are all important variables. Avery and Turner research to what extent can students accurately predict these determinants. Overall, they conclude that students typically fail to account for their own circumstances and struggle estimating those important variables. However, in their conclusion the authors do not use any data or primary research as evidence making their results somewhat questionable.

Another piece of literature comes from Brian Cadena and Benjamin Keys, "*Can Self-Control Explain Avoiding Free Money? Evidence From Interest-Free Student Loans*." Cadena and Keys try and explain the unusual notion that one in six students rejected interest-free student loans, which means students are essentially denying "free money." Students are even more likely to deny the loan if it is in cash. Most people would hypothesize the reason students would deny this free money is they are not financially savvy enough to know the loan's discounted value of benefits. However, counter intuitively, the authors conclude that students do this as a way to err on the side of caution and be risk averse. The students claim that if they accept the

loans they will be too tempted to spend the money on frivolous things such as excessive food, alcohol, drugs, and other vices, showing great self-control.

Students' expectation of wages upon graduation is also central to this research because current knowledge of future income is used as de facto collateral. Julian R. Betts discussed this topic in his paper, "*What do Students Know about Wages? Evidence from a Survey of Undergraduates.*" Betts suggests that students, especially in their early undergraduate years, lack specific knowledge about their future earnings capacity. Even more concerning since most loans are taken out before senior year, is that the study says half or more of the knowledge students do accumulate in college regarding their future earnings capacity is not acquired until their senior year. Overall, Betts found that the median student estimated an income approximately 20% higher than the students would likely be receiving.

A recent study by the Brooking Institute found data that points out that many students do not understand their loan amount, which would infer students are not taking their debt into consideration when making decisions about college because their parents pay tuition. Their findings were: "That only a bare majority of respondents (52 percent) at a selective public university were able to correctly identify (within a $5,000 range) what they paid for their first year of college. The remaining students underestimate (25 percent), overestimate (17 percent), or say they don't know (seven percent)." Additionally, they found students started to understand their debt positions better as they became upperclassmen, concurrent with Betts' findings.

In the study "*Do You Know What You Owe? Students' Understanding of Their Student Loans*" by Emily Andruska, Jeanne Hogarth and others, they found correlations between debt burden and debt knowledge, as well as, relationships between financial independence and debt knowledge. This means that students who are more financially independent (i.e. pay for a bigger

portion of their tuition and expense on their own) the more likely they will have a better understanding of their loan situation. The authors found, "There is some evidence to suggest that the more financially constrained students are, the more likely they know they have debt. For example, students whose expected family contribution was less than the cost of attendance were less likely to be loan confused than those without financial need…similar explanations may also apply to the finding that financially independent students were less likely to be loan confused."

III. Hypotheses

This research was founded upon two central questions:

1. Do students view their loans as investments?
2. Are there independent variables that impact student loan knowledge?

Answering the first question is more of a subjective task since there is no set criteria that is able to definitively judge whether a student is viewing their student loans as investments. While it is possible to create a new criteria, the criteria would be arbitrary and not based on prior research. Therefore, readers will be able to come to their own conclusions at the end this paper based on the way participants answer the questions about their starting salary, debt burden, and interest rate. Those results will be found in section VI.

The second question is easier to answer because it is testable. Two different statistical tests will be run to determine whether any of the 5 independent variables will have a significant impact on knowledge of the dependent variables. **The hypothesis is that the presence of an independent variable will lead to greater knowledge about the dependent variables.** The five variables are current employment, budgeting, enrollment in college financial courses, high school financial courses, and debt dependence of greater than 50%. Debt dependency of greater than 50% is defined as when a student's loans are responsible for more than 50% of their expenses.

IV. Data Collection Method

An online survey was chosen as the fastest and most efficient way to collect the necessary data. In total, the survey comprised of 62 question and was created using Qualtrics Survey Software and was created in collaboration with another senior in the Honors Contract Program at Ohio State, Nicholas Murley. Nick and I are researching very similar topics and the partnership was formed at the recommendation of Fisher Associate Dean, Dr. Patricia West. The survey was distributed through four faculty members at Ohio State: Bruce Bellner, Beth Pittman, Dan McDonald, and Ty Shepfer. The professors passed the survey onto the students, asking them to complete it. Dan McDonald and Beth Pittman offered students less than 1% extra credit upon completion, which help improve response rate.

The survey is broken up into two main parts. Part 1 is designed largely for my research and consists of three different types of questions. The first type of question is simply demographic and personal information regarding gender, major, and year in school. The second type of question pertains to the dependent variables asking about students' estimated starting salary, debt burden, and interest rate. In the third section of questions the students are asked about the five independent variables. Examples of the questions can be seen below in Figures 1-3.

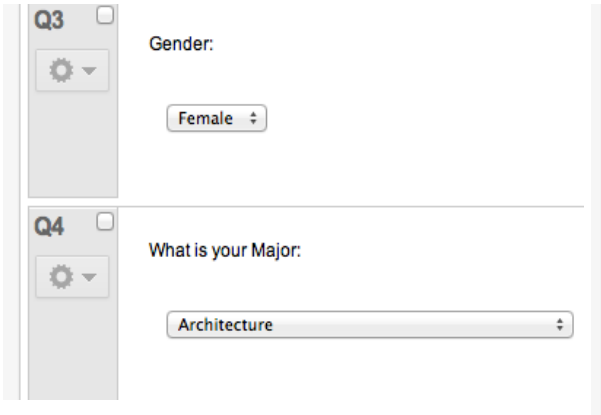


Figure 1. Screenshot of Questions 3 and 4 from the Survey

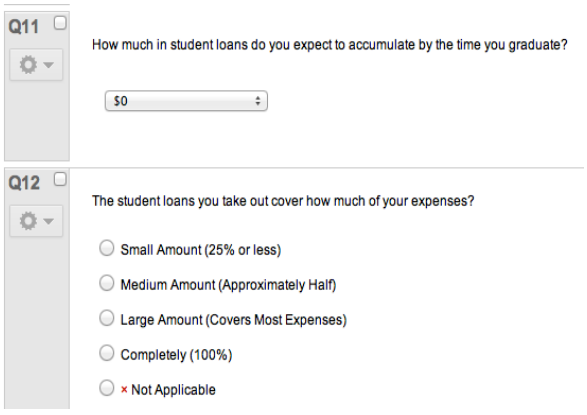


Figure 2. Screenshot of Questions 11 and 12 from the Survey

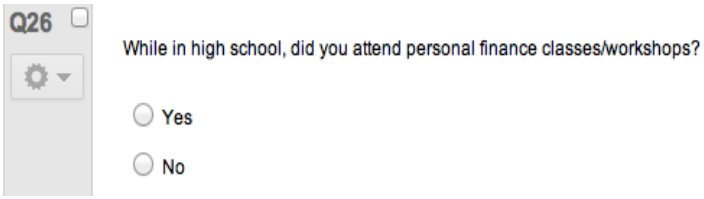


Figure 3. Screenshot of Question 26 from the Survey

Part 2 was designed for my survey partner Nick's research. For his study questions are based on the 2014 study done by Ferdnandes, Lynch, & Netemeyer, "*Financial literacy, financial education, and downstream financial behaviors*."

The questions in part 1 are constructed based on two similar studies done examining the financial wellness of students. The two studies are the *National Student Financial Wellness Study* (NSFWS) and the *Ohio Student Financial Wellness Survey* (OSFWS). NSFWS and OSFWS were introduced to me by Dr. Montalto, a faculty member at Ohio State, who played a central role in construction and execution of these studies. Unfortunately, the data from these studies are embargoed until 2018, so they cannot be used.

V. Assumptions & Data Analysis Process

Assumptions

1. Career experiences vary on an individual basis, however, this research must discuss it as it relates to the averages, which is consistent with much of the existing literature on loans and borrowing. Measuring career experiences on an individual basis is costly and difficult to do.

2. Estimated starting salary will be used as a proxy for estimating future income. There is a lot of variation and uncertainty regarding a student's entire lifetime of earnings making it extremely difficult for students to estimate and difficult to accurately measure and analyze. Therefore, immediate starting salary is used.

3. Survey responses need to be taken at face value. There is no way to check to see if participant responses are accurate and honest. Trying to check would violate students' legally protected privacy rights and breach the trust of the participants since they were told their responses in the survey would be anonymous. In an attempt to ensure the participants would not answer questions in particular ways to rush through the survey, every participant saw every single question. Meaning, there was no sequence of answers that led to a shorter survey.

Data Analysis Process

The data analysis process will be broken down into two different sections. The first section will simply be the data regarding the dependent variables while the second section will address whether any independent variables has significant impact on student loan knowledge.

Part 1

To analyze the results for students' prediction of starting salary, their estimates from the survey are taken and compared to the national average starting salary (from Payscale.com). For business students, in addition to the national average, responses are also compared to the Fisher

Business School 2015 reported averages. Data is only taken from majors that have at least 4 responses ensuring majors with small sample sizes are not misrepresented. The question is asked breaking the responses into brackets of $4,999. For example, possible answers are $25,000-$29,999, $30,000-$34,999, etc. The results are separated into three categories: Over, Within, and Under. If a response does not fall within the two closest ranges to the correct responses it is marked either "over"/"under" accordingly. If the response did fall within that range, it is marked "within." For example, if the national average is $51,000, responses marked $50,000-$54,999 are marked "within." Responses in the two brackets above and below the correct answer are also included. So, for clarity, in this example it would be students who marked either $45,000-$49,999 or $55,000-$59,999. As a result, it allowed students to estimate their starting salaries within a $15,000 range.

For the next two variables, interest rate and debt amount, the analysis is straightforward. No assumptions or use of prior literature is necessary for the results pertaining to this research.

Part 2

Part 2 consists of 3 multivariate regressions and 15 two-proportional Z-tests. The multivariate regression will be able to take into account all independent variables when testing which one(s) is significant when testing against each dependent variable. The results will be displayed like Figure 4 shows (for reference, a key can be found in Figure 5). Since it will be a one-tailed test, a variable will be significant with at least 95% confidence if the P-value is less than .1.

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept 1				
X Variable 1				
X Variable 2				
X Variable 3				
X Variable 4				
X Variable 5				

Figure 4. Multivariate Regression Results Outline

Multivariate Regression Key

Intercept 1	=	Starting Salary Knowledge = Dependent Variable
Intercept 2	=	Debt Burden Knowledge = Dependent Variable
Intercept 3	=	Interest Rate Knowledge = Dependent Variable
X Variable 1	=	Employment
X Variable 2	=	Debt Dependency
X Variable 3	=	High School Financial Course
X Variable 4	=	College Financial Course
X Variable 5	=	Budgeting

Figure 5. Multivariate Regression Key

The hypotheses for the two-proportioned Z-tests are as follows:

Null Hypothesis: $P_1 \leq P_2$
Alternative Hypothesis: $P_1 > P_2$

In other words, the null hypothesis states that the proportion of group 1 will be less than or equal to group 2. Conversely, the alternative hypothesis states that the proportion of group 1 is greater than group 2. For the research, group 1 is always the group in which the independent variable is present, so, if there is a relationship between the variables and knowledge of the dependent variables the null hypothesis will be rejected. As mentioned before there will be 5 independent variables. Each of the 5 will be tested against all 3 dependent variables separately. The variables will only be tested if group 1's proportion is greater than group 2's proportion. The dependent variables are whether students can identify if they have debt, their interest rate, and starting salary. As a visual, a matrix of the tests without the results is provided below.

	Current Employment	Budgeting	College Financial Course	HS Financial Course	Debt Dependency
Debt or Not					
Interest Rate					
Starting Salary					

Table 1. Matrix showing combination of dependent vs. independent variables

VI. Results

Part 1 - Starting Salary (Future Return)

The results for students being able to identify their potential starting salaries are broken up into two different sample sizes. The first is a sample size of 270 students, which include participants from a variety of majors including: Accounting, Economics, Finance, HR, International Business, Marketing, Operations Management, Communications, Journalism, English, Education, and Public Affairs. The results, which can be seen in Figure 6 showed only 41% of students are able to accurately identify within the $15,000 range what they will most likely be making upon graduation. Of the 59% that is not able to identify their future starting salary, 38% reported a number that overestimated the correct answer, while 21% reported a number below the expected salary. The sample size comparing current Fisher students and their expectations to recent Fisher graduates is 130. The participants are from across 7 different majors (Accounting, Economics, Finance, HR, International Business, Marketing, Operations Management). The average salaries are taken from

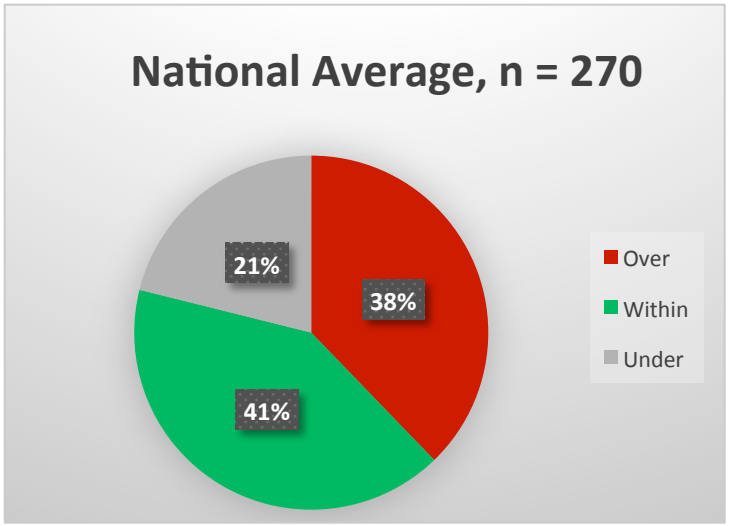


Figure 6. Results of All Starting Salary Estimations

Major	Min	Max	Average Salary
Accounting	$30,000	$72,500	$50,978
Economics	$30,000	$85,000	$51,090
Finance	$30,000	$85,000	$54,062
Human Resources	$30,000	$59,000	$44,472
Information Systems	$42,000	$78,000	$56,250
International Business	$34,400	$78,000	$52,527
Logistics Management	$30,000	$75,000	$51,426
Marketing	$30,000	$80,000	$49,980
Operations Management	$31,000	$80,000	$52,172

Table 2. 2015 OSU Business Student Starting Salaries by Major

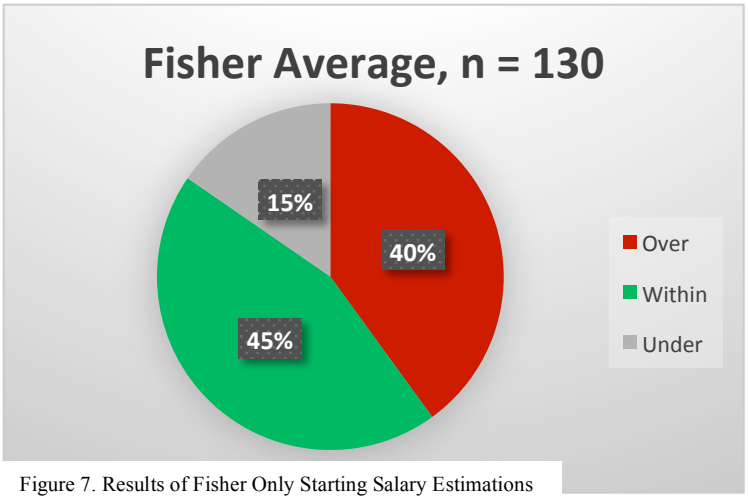


Figure 7. Results of Fisher Only Starting Salary Estimations

http://fisher.osu.edu/offices/career-management/employer-resources/salary-data and can be seen in Table 2. These are the actual reported salaries of 2015 Fisher graduates. These results are very similar to those found in Figure 7. Only 45% fall into the "within" category. Of the 55% that are not able to identify their future starting salary, 40% predict a number that overestimates the correct answer, while 15% predict a number below the average starting salary. Overall, business students are slightly more accurate at predicting their probable future earnings, however, they are also marginally more optimistic comparatively with 40% of students predicting a salary greater than the normal.

The optimism spoken about in the paragraph above can most clearly be seen among finance majors. The sample size for finance majors is 51. Out of the 51, 47.1% overestimated their starting salary. In addition, 4 participants (7.8%) believed their starting salary would be over $100,000. While this is a possibility due to the variation of individual experiences, it is highly unlikely since not a single reported Fisher graduate in 2015 had a salary over $85,000. Figure 8 shows the results.

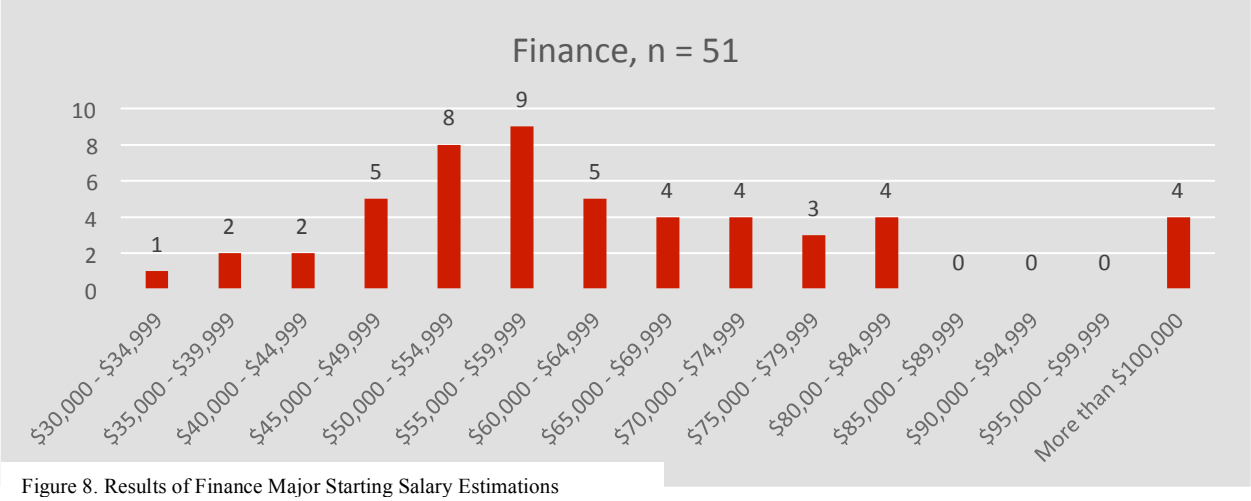


Figure 8. Results of Finance Major Starting Salary Estimations

Part 1 - Interest Rate

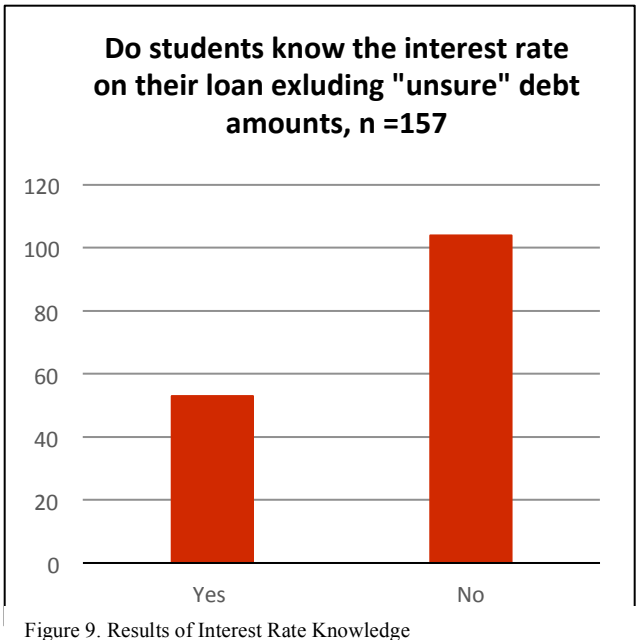


Figure 9. Results of Interest Rate Knowledge

Currently, federal student loan interest rates are pegged to the yield on the 10-year Treasury note with a set percentage added on **(U.S. News Article)**. That add-on is smaller for undergraduate debt than for graduate and parent loans, meaning that college students typically get the cheapest deal on federal loans **(U.S. News Article)**. The interest rate on a student loan for 2015-2016 is 4.29%, down from 4.66% in 2014-2015 **(U.S. News Article)**. When looking at the 182 students who responded to the question, the results showed 129 of the 182 (70.1%) did not know the interest rate on their loan. Figure 9 shows these results. This 70.1% includes participants who responded "unsure" to the questions regarding their debt amount. To account for these "unsure" participants they are excluded and only students with reported debt amounts are examined. The total population size was 157 respondents. There are 104 "No" (66.2%) and 53 "yes" (33.8%) response. Figure 10 shows these results. The results are very similar and compared to the 70.9%/29.1% results. Moreover, the results are slightly better in the sense more students are aware of their interest rate, which is unsurprising

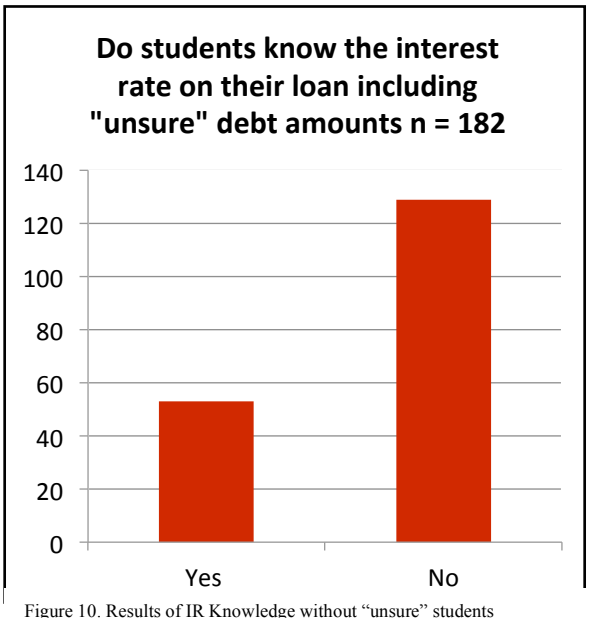


Figure 10. Results of IR Knowledge without "unsure" students

given the fact that we removed students who did not know their debt amount. Included below is a chart (Figure 11), showing the breakdown of interest rate knowledge in a different format. Figure 11 divides students up into their reported debt amounts and shows the yes/no response for each debt amount category. The debt amounts shown are the current amounts students owe rather than the amount expected upon graduation. The "unsure" category is included at the end. A result that is slightly concerning is fact that all 3 participants with between $50,001 - $75,000 are unaware of their interest rate.

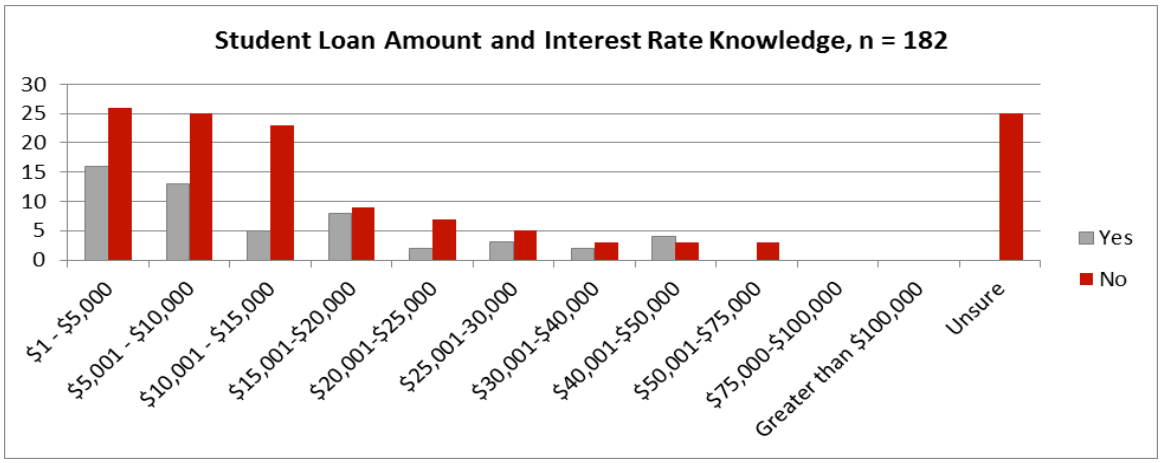


Figure 11. Interest Rate per Current Debt Amount

Part 1 - Debt Amount

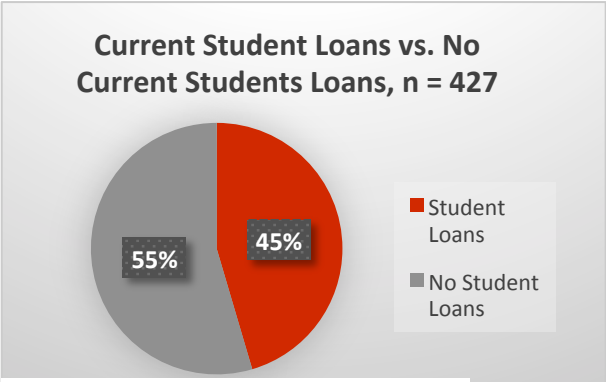


Figure 12. Students with loans vs. Students without

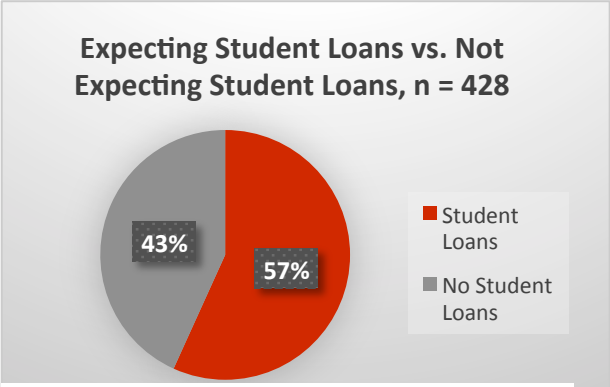


Figure 13. Students expecting loans vs. Students not expecting loans

The survey asks two straightforward questions about participants' debt amounts. The questions are: "How much in student loans do you currently owe?" and "How much in student loans do you expect to accumulate by the time you graduate?."

First, the results are broken down into two segments. The segments are "student loans" or "no student loans." The results can be seen in Figures 12 and 13. The first one with a population of 427 reports 55% of participants have no students loans while 45% currently do have loans. In addition, the second chart shows that only 43% of students expect to have no loans upon graduation versus 57% of students who believe they will. The difference between students with no current loans vs. students that do not expect loans by graduation is a large gap and most likely due to the large freshman and sophomore population who participated in the survey. Exactly 50% of the students are freshman and another 24% are sophomores. Since three-quarters of the population are underclassman there is still considerable unknown about their future and the ability to pay tuition without loans.

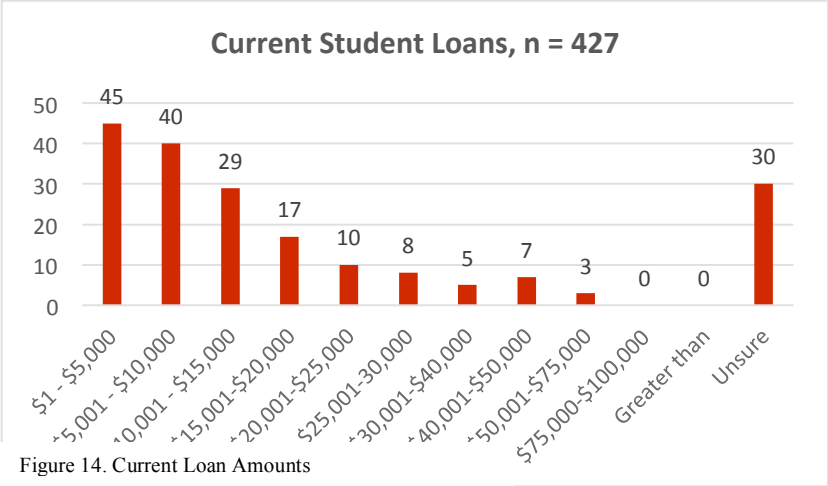


Figure 14. Current Loan Amounts

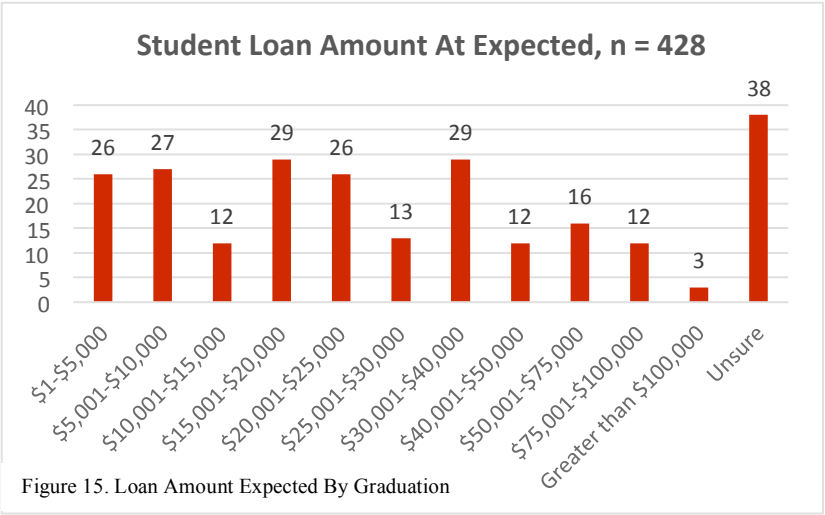


Figure 15. Loan Amount Expected By Graduation

Next, the results are broken down even further, which can be seen in Figures 14 and 15. The students who currently have no debt or expect to graduation with no debt obligations are removed from the data. (Students with no debt are overwhelmingly the most responses in any one single range.) Figure 14 shows the data concerning students' current debt levels. The category of most interest to this research is the "unsure" category. This category is able to show what percentage of people are actually able to report whether they had loans. For the first question, 30 students or 7% of the population responded that they did not know their debt amount. Regarding the second question, a total of 9% of the population was unsure as to whether they expected to graduate with debt. This bump in uncertainty is expected because the future is always more uncertain than the present.

Part 2 – Multivariate Regression

The first statistical test is a multivariate regression testing all 5 independent variables against each dependent variable. The results of those tests can be seen below in Figures 16-18.

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept - Starting Salary	0.200	0.079	2.512	0.013
Employment	0.031	0.068	0.449	0.654
Debt Dependency	0.019	0.072	0.270	0.787
HS Financial Course	0.060	0.071	0.844	0.400
College Fin. Course	0.151	0.091	1.673	0.096
Budgeting	0.029	0.070	0.407	0.684

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept - Interest Rate	0.210	0.086	2.437	0.016
Employment	0.150	0.075	2.009	0.046
Debt Dependency	0.094	0.077	1.222	0.223
HS Financial Course	-0.048	0.074	-0.650	0.516
College Fin. Course	-0.049	0.097	-0.503	0.616
Budgeting	0.002	0.077	0.023	0.982

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept - Debt Burden	0.910	0.037	24.269	0.000
Employment	0.083	0.039	2.142	0.033
Debt Dependency	-0.038	0.040	-0.932	0.352
HS Financial Course	0.002	0.039	0.043	0.966
College Fin. Course	0.011	0.050	0.216	0.829
Budgeting	-0.041	0.036	-1.119	0.265

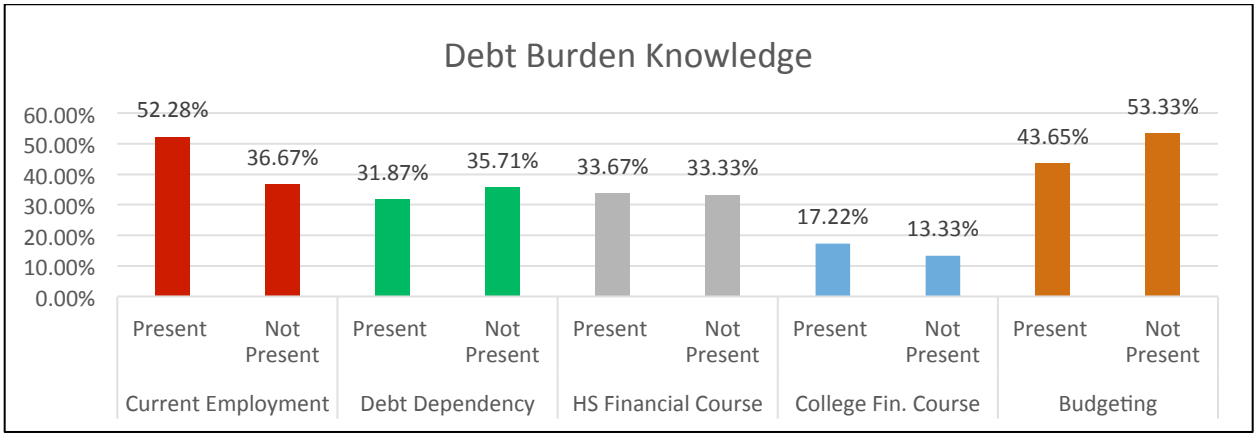
Figure 16-18. Multivariate Regression Results

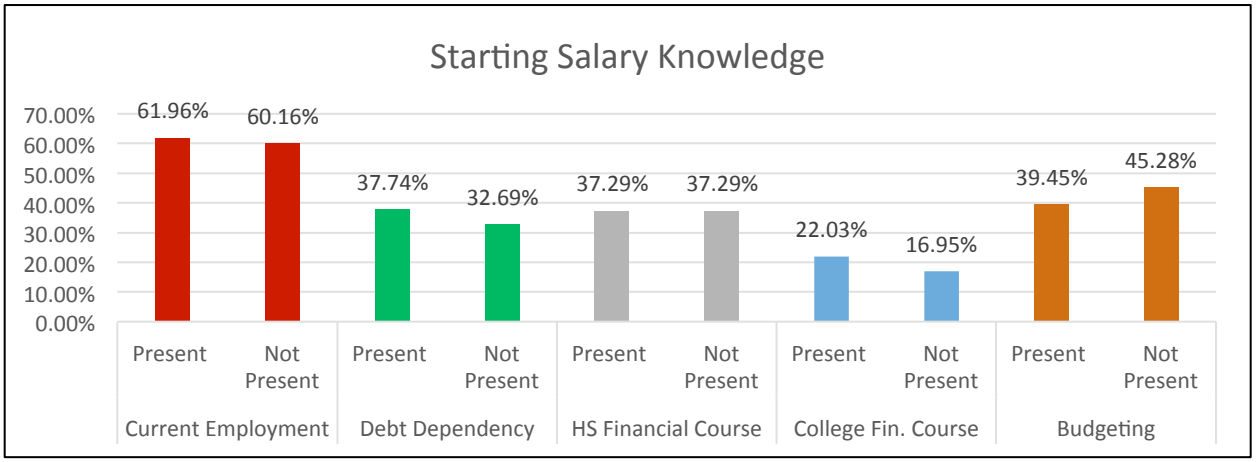
The three numbers highlighted in yellow indicate where an independent variable is shown to be significant with 95% confidence. They are:

1. Taking a college financial course is associated with knowledge of potential starting salary.
2. Employment while attending college is associated with knowledge of debt burden.
3. Employment while attending college is associated with knowledge of the interest rate.

Part 2 – Two Proportion Z-Tests

The second statistical test is a Z-test that analyzes whether group 1's proportion is significantly greater than group 2's proportion. Note the independent variable is always present in group 1; it is labeled "present" accordingly on each figure. The proportions for all five independent variables can be seen in the next three figures. Each figure is a different dependent variable.





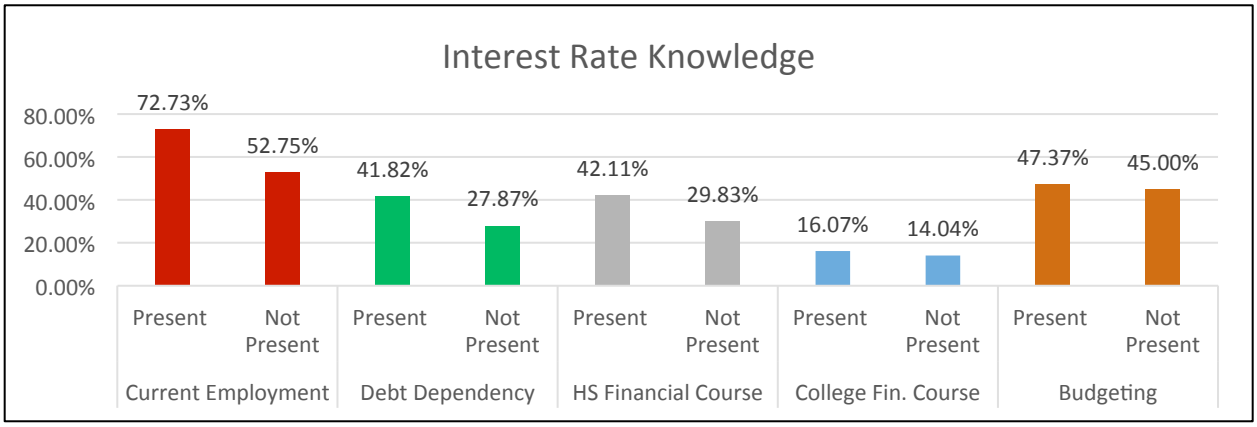


Figure 19-21. Proportions of students with student loan knowledge where IV was present vs. when IV was not present

In 4 of the 15 situations the p-value was smaller than .1, signifying the null hypothesis is rejected meaning the independent variable has a statistically significant effect on whether a student is able to identify the dependent variable. The four situations are:

1. Employment while attending college is associated with knowledge of debt burden.
2. Employment while attending college is associated with knowledge of interest rate.
3. Taking a high school financial course is associated with knowledge of potential starting salary.
4. Debt dependency is associated with knowledge of interest rate.

The results are similar to those found using the multivariate regression. For example, current employment's effect on both interest rate and debt burden knowledge is found to be significant in both statistical tests.

VII. Conclusion/Discussion

Even accounting for the limitations, the overall trends and findings of this paper are of great value. To review: 93% of students knew their debt amount, 38% could accurately predict their future income, and 33% knew their loan's interest rate. Multivariate regressions showed that current employment and enrollment in a college financial course are found to be associated with greater student loan knowledgeable. Moreover, current employment, debt dependency and enrollment in a high school course were found to be associated with student loan knowledge according to two-proportioned Z-tests.

This research conservatively concludes that current employment definitively has a positive effect whether students are more knowledgeable about their student loans. While other independent variables were shown to be significant between the two tests, current employment was the only independent variable that was shown to be significant in both tests. In addition, their p-values are very small indicating great confidence in the current employment effect.

Current employment's association with knowledge about student loans is quite intuitive. Students who work are most likely more responsible for the cost of their tuition, monthly expenses, and more financially independent. Thus, these students will be more knowledgeable about their loan's interest rate and debt burden. This would indicate the research reinforces the idea found in "*Do You Know What You Owe? Students' Understanding of Their Student Loans*," that financial independence is strongly associated with students' awareness of their loan situation.

Finding current employment as the important variable in student loan knowledge is conflicting since students with loans cannot be forced to work. However, the idea that a college financial course helps students get a better understanding of their loans is encouraging because

requiring students to take a financial course is a policy and solution a university can use to help students with their loans. A policy like this would be appropriate because college is the reason these students have this debt in the first place.

It should be noted this study is not without limitations. Most limitations are related to what was described in the "assumptions" section of this paper. First, there was no way to check the information provided by the survey participants to see if there responses were true regarding their student loans. Second, basing future return on starting salary expectations was highly speculative especially due to the variability of an individual's career experiences. Yet, without a crystal ball, there is no way to accurately estimate how much an individual will make over his/her lifetime. Last, the lack of diversity in the survey population. The majority of the participants were from an introduction to communications class and the business survey class at The Ohio State University. Therefore, most of the participants were either communications or business majors in their first two years of college. To have a more accurate study a broader population would be prudent.

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